DOCUMENT RESUME

ED 148 035 EC 103 060

AUTHOR McCormack, James E.
TITLE Teaching Activities of Daily Living.
INSTITUTION Seaside Education Associates, Gloucester, Mass.
PUB DATE 77
NOTE 37p.; For further information contact Special Projects, Massachusetts Department of Education, 31 St. James Avenue, Boston, Massachusetts ; For related documents, see EC 103 058-060 ; Document originally prepared at the now defunct Mass Center, Medford, Massachusetts

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Behavior Change; *Contingency Management; *Daily Living Skills; Elementary Secondary Education; Mentally Handicapped; Reinforcement; Self Care Skills; Severely Handicapped; Student Evaluation; *Teaching Methods; *Trainable Mentally Handicapped

ABSTRACT

Provided are strategies for teaching activities of daily living (ADL), which include dressing, eating, grooming, toileting, and basic homemaking, to severely retarded students. Reviewed are the steps necessary to teach ADL skills: ADL assessment, identification of appropriate strategies and tactics, and task analysis. Explained are four common instructional tactics: shaping, modeling, fading, and backchaining. Also discussed are reinforcement procedures and methods of data collection and analysis. Examined are such behavior management strategies as time out, punishment, and overcorrection. A final section reports on support activities which can assist in the development of ADL prerequisite skills. (SBH)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED148035

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

TEACHING ACTIVITIES OF DAILY LIVING

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

James E. McCormack

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

SEASIDE EDUCATION ASSOCIATES
ZERO ELM STREET
MANCHESTER, MA 01944

EC 10 3060

TEACHING ACTIVITIES OF DAILY LIVING

BY JAMES E. MCCORMACK

TABLE OF CONTENTS

Introduction 1

Strategies for Teaching ADL Skills 4
alternative reactions to identified objectives 5
task analysis 8
instructional tactics 9
reinforcement procedures 12
data collection and analysis 16
behavior management 19
support activities 24

Summary 25

References 26

Educational professionals are currently faced with numerous programmatic, economic, architectural, and legal difficulties as a result of recent court decisions (Gilhool 1973, Lippman & Goldberg 1973) and legislation which expand public school services to include severely retarded students. The soon to be implemented federal special education law, P.L. 94-142, will complete the movement by requiring all states to provide educational opportunities to all the handicapped. The influx of severely retarded students will necessitate new educational resources and procedures which do not commonly exist within the public schools. The movement will also require a revision in traditional definitions of education. In this regard, Roos (1971) has stated that:

> Education is the process whereby an individual is helped to develop new behavior or to apply existing behavior, so as to equip him to cope more effectively with his total environment. It should be clear, therefore, that when we speak of education we do not limit ourselves to the so-called academics. We certainly inlcude the development of basic self-help skills. Indeed, we include those very complex bits of behavior which help to define an individual as human. We include such skills as toilet training, dressing, grooming, communicating and so on (p2).

Roos' statement suggests that program emphasis for severely retarded students will have to include skill areas that, traditionally, have not been considered a part of public school education. The design of training programs must take into consideration the long-term needs of the severely retarded. Programming will have to include the development, maintenance and refinement of self-care, grooming, communication, and other social adaptive skills. The emphasis in programming should be on activities that move students toward independence and self-direction. Historically, many parents and professionals alike, guided by the expectation that the severely retarded would remain

childlike, have tended to infantilize these persons and perpetuate their helplessness and dependence.

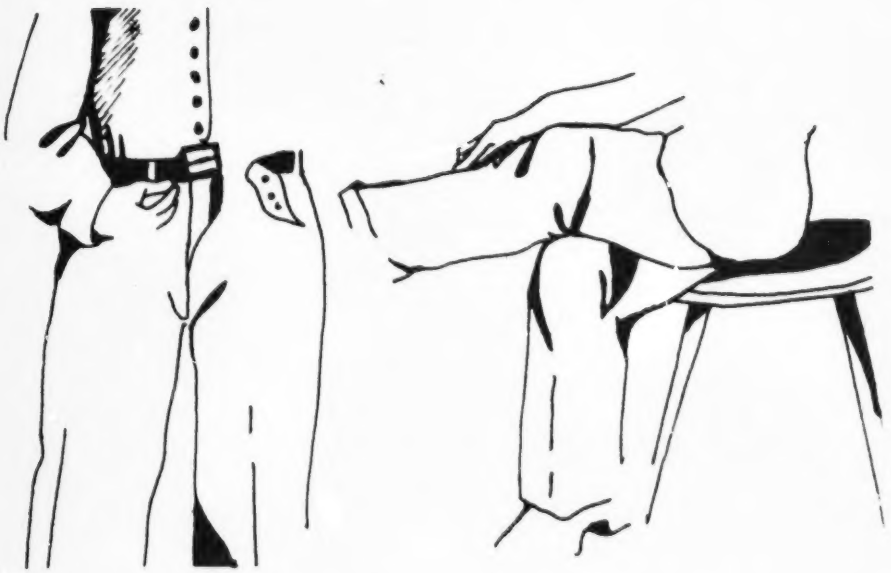
In the not-too-distant past, severely retarded persons were thought to be incapable of learning, and developmental programming for these individuals was considered futile. In contrast to this pessimistic view, the severely retarded are now being taught many skills (Gold 1973; Lake 1973; Watson 1973 & 1972; Cortazzo 1972; Ball 1971; Gardner 1971; Bialac 1970; Girardeau et al., 1970; Gardner & Watson 1969; Barnard & Orlando 1967; Hollis & Gorton 1967).

Experience with mentally retarded persons in a variety of program settings over the last decade has demonstrated that the systematic use of positive reinforcement can facilitate the development of skills including self-feeding (Berkowitz et al., 1971; Groves & Carroccio 1971; Witney & Barnard 1966; Bensberg et al., 1965; Spradlin 1964; Blackwood 1962); dressing (Martin et al., 1971; Kimbrell et al. 1967; Ming & Ball 1967; Karen & Maxwell 1967); toilet use (Foxx & Azrin 1973; Watson 1967; Giles & Wolf 1966; Baumeister & Klosowski 1965; Hundziak et al., 1965); grooming (Treffry et al., 1970; Bensberg et al., 1965; Girardeau & Spradlin 1964); motor skills (Auxter 1971; Smith 1972; Rice et al., 1967; Ball & Porter 1967; Johnson et al., 1966); language development (Jeffrey 1972; Stremel 1972; Bricker & Bricker 1970; Peine et al., 1970; Risley & Wolf 1968; Sloane 1966); and socialization (Roos 1968; Weisen & Watson, 1967; Bensberg et al., 1965; Girardeau & Spradlin 1964).

Activities of Daily Living

Activities of Daily Living (ADL) training (dressing, eating, grooming, toileting, and basic homekeeping) includes some of the most critical skills that must be acquired by severely retarded students. The acquisition of these ADL

skills has several consequences, among which are: providing more time for other activities, enhancing a sense of well-being and self-satisfaction, improving physical hygiene and health, establishing the prerequisites for the development of other skills, and providing the skills necessary for movement to less restrictive educational and residential opportunities. In summary, ADL competence is a basic prerequisite for access to participation in the opportunities associated with a normal life stylе in our society.



Strategies for Teaching ADL Skills

In the past, the teaching of behavior clusters such as ADL skills primarily has been the responsibility of parents or residential staff. However, recent federal and state legislation requiring a zero reject educational model has made ADL skill development an integral part of the public school curriculum. ADL skills are among the most important for students to acquire; they are prerequisite for almost all activities in our society. Most people acquire them without conscious effort and perform them automatically. For the severely handicapped or young handicapped student, however, these skills often represent tremendous barriers that must be overcome through strenuous effort.

The teaching of ADL skills often is a new and complex task for the classroom teacher; new assessment procedures must be investigated, objectives established, task analysis completed, instruction implemented, and performance monitored. Each of these steps must be completed successfully before the student can acquire those ADL skills necessary to proceed to other life option situations.

ADL Assessment: In order to gather planning information, educators historically have relied on a wide variety of testing procedures; some predictive, some projective, and most comparative. These approaches have generally proven inappropriate with regard to ADL skills. As an alternative, educators assessing ADL skills have relied on behavior rating scales such as the Cain-Levine Social Competency Scale (1963) and the AAMD Adaptive Behavior Scale (1971). These scales require an informed observer to make statements regarding the student's ability to perform specific skills. Unfortunately, these scales, because of their limited number of ADL items require an assessor to make broad generalizations based on a few specifics.

An alternative assessment device capable of pinpointing performance over a broad spectrum of skills is the Educational Evaluation and Planning Package (1976). Its ADL section contains checklists which allow an assessor to report specific performance on more than two hundred and fifty skills. Using this information, an assessor should be able to develop appropriate objectives and determine appropriate teaching tactics.

Alternative Reactions to Identified ADL Objectives: When assessment results indicate that a student does not perform certain ADL skills, the teacher must make a number of decisions (Figure 1). First, it is necessary to determine if the student can demonstrate the skill if the physical and/or behavioral environment is modified. If environmental modification is not sufficient to allow skill performance, the appropriate instructional strategies must be identified.the appropriate instructional sequence adopted, adapted, or developed, and the necessary support tactics determined. Once these decisions are made, instruction may begin; however, performance must be monitored constantly in such a way as to allow for the pinpointing of necessary instructional modifications.

As previously stated, the initial task is to determine whether modifying the behavioral and/or physical environment will allow the learner to demonstrate the skill. Possible actions within this non-instructional intervention (Mager & Pipe 1970) category include removing physical obstacles (widening toilet stalls), providing assisting devices (hand bars), prescribing prosthetic devices (dorsal feeding splints), or altering the inherent consequences of the environment (eliminating punishment, arranging positive consequences, etc).

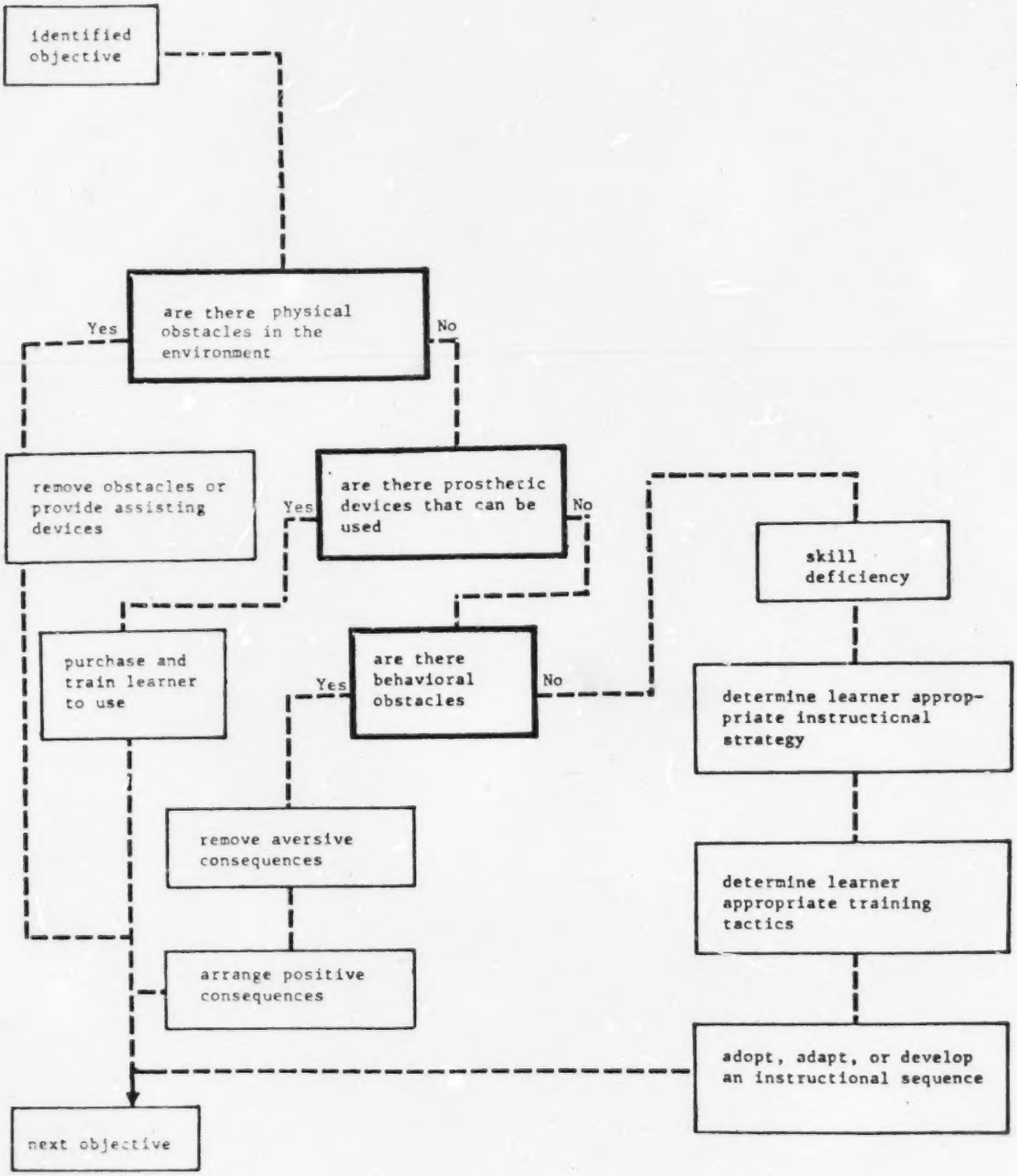


Figure 1. Alternative reactions to identified objectives.

The first step in instructional intervention is to identify appropriate strategies and tactics. Given the student's level of functioning in various skills and overall performance patterns, what procedures should be used in the intervention? Some strategy decisions include the type of intervention (play centered, behavior modification, neotraditional, etc), size of instructional groups (one to one, small group, etc.), and classroom support activities. Tactics refer to factors such as primary receptive/ expressive modes, reinforcement preferences, attention span, etc. In teaching most ADL skills, an initial phase of individual instruction often is necessary Support activities (classroom play, physical therapist services, etc.) also have been found to contribute significantly to the acquisition and generalization of ADL skills.

Although it is important that no instructional strategy be excluded from consideration, as previousely noted, considerable success in teaching ADL skills has been achieved through an approach involving the principles of task analysis, systematic instructional tactics and reinforcement therapy.

Taken as a whole, these principles represent the elements of a process for the development of instructional sequences that can be used to teach ADL skills to severely retarded students. The task analysis provides the steps through which the student must progress to demonstrate the skill. The systematic instructional tactics provide alternative means of teaching the skill. The reinforcement procedures provide the basis for selecting and delivering those rewards which will best encourage the student to continue with the difficult task at hand.

Task Analysis: Task analysis is the basis for the development of ADL instructional sequences. It is the means by which the instructional task is broken down into component subtasks (Semmel, Semmel & Thiagarajan 1974). In regard to ADL skills, task analysis may be derived primarily from the observation of a skilled performer.

The procedure used to determine the steps in the task analysis involves performing the task (or asking another to perform it) and recording each movement. To assure that no steps have been missed, the demonstrator should then perform each step as the recorder reads it back. If the performer can complete the task by merely following the steps, the task analysis is significantly constructed to begin training.

Since the number of steps that comprises a task analysis is theoretically unlimited, the initial task analysis for any skill will be arbitrary. As a rule it should reflect the major movements involved in the task. An example of a "hand washing" task analysis at the major level would be:

1. goes to sink
2. rolls up sleeves
3. turns on water
4. dampens hands
5. turns off water
6. picks up soap
7. turns soap
8. replaces soap
9. lathers hands front and back
10. turns on water
11. rinses hands
12. turns off water
13. picks up towel
14. dries hands
15. replaces towel
16. rolls shirt sleeves down

The next level of analysis is dependent on the student. If the student is unable to perform a step it may be necessary to break that step into its component steps. For example, to achieve success, some students may require the "replaces soap" step to be sub-divided into:

1. holds soap
2. moves soap toward tray
3. places soap in tray
4. releases soap
5. removes hands

Instructional Tactics: There are a number of instructional tactics which can be used to help students acquire ADL skills. Unfortunately, a tactic that works well for one student will not necessarily be successful with another. When one method proves ineffective for a particular student, the teacher should be aware of other alternative approaches. There are four common instructional tactics that can be used in the teaching of ADL skills.

Shaping is a procedure in which reinforcement is administered systematically for each step toward approximation of the desired task. Initially, a reward is given when the student performs something already in his/her repertoire. Gradually, the student is expected to do more and more of the task for the reward. Finally, the student only receives the reward after performing the entire task correctly. For example, if the student is to perform the task of taking off a sock, initial reinforcement might be given when the sock is touched; later, the student may be required to pull the sock over the ankle before the same reinforcement is given. This gradual change in teacher expectations continues until the student is performing the entire task before being reinforced.

The instructional tactic called modeling allows the student to watch a demonstration of the task being performed correctly. Initially, the demonstration is done slowly in small steps, and is accompanied by a verbal or signed explanation of the steps. This allows the student to see the complete process and the results. Next, the model performs one step of the task at a time, giving the student a chance to repeat the behavior. If the student hesitates, physical

guidance and verbal explanation should be given. For example, when brushing hair, the model should demonstrate how to hold the brush and then make sure the student is holding the brush appropriately before moving to the next step. As the student progresses, steps should be combined until the demonstration is performed at the normal rate. Once the student is able to follow the normal rate demonstration, the physical demonstration should be reduced to a verbal request, i.e., "Please brush your hair".

When first learning a task, the student may require a high level of assistance (physical and/or verbal). As the student becomes competent at performing each step, the assistance should be reduced gradually. This reduction of assistance is called fading. If both physical and verbal assistance are being used, begin fading out the verbal assistance after the physical guidance has been removed. For example, in teaching a student to wash his/her hands it may be necessary to provide physical and verbal assistance for each step, i.e., say, "turn on the water", and help the student to grasp and turn the faucet handle. When the student begins to demonstrate some ability to perform the step, the teacher should encourage the student to perform the task with only a verbal cue. The fading of physical and verbal cues for each step continues until only the initial verbal command ("wash your hands") is required.

There are various levels of assistance that a teacher can use in attempting to train the student to be totally independent at a skill (washes hands when they are dirty); among these are:

* initial command.....needs to be told "go wash your hands"
* verbal cue.....stops in the sequence and has to be asked "what do you do next"
* step command.....stops in sequence and has to be told next step (step command) "pick up the soap"
* gesture.....step command and pointing

* demonstration.....step command followed by demonstration

* partial physical....step command followed by physical prompt (move student's hand toward soap and release)

* full physical.....step command and assisting the student through the complete step (move student's hand toward the soap, place fingers about soap, etc.).

Another procedure is called backchaining. In backchaining, assistance initially is given (physical and/or verbal) on all the steps. At the next stage, assistance is given for all steps except the last. The student must independently complete the last step, thus, complete the task. The student then is rewarded for completing the task. Next, the student is required to perform the last and next to last steps independently. As mastery of each step is reached, assistance continues to be withdrawn. Eventually, the student is expected to complete the entire task unassisted. For example, in the task analysis for putting on a hat, the teacher would go through the complete task with the student:

1. locate hat
2. grasp hat with one hand
3. place hat on head
4. release hat

Later assistance would be given for the first three steps only and the student would be expected to complete step four independently. When the student could do step four alone, then the teacher would only provide assistance for the first two steps and expect the student to complete steps three and four unassisted. This process would continue backwards until the learner could perform all four steps independently.

Backchaining is used because it maximizes the probability of a student completing specific steps in the sequence, independently and successfully. The emphasis is on not moving to a new step until success is virtually assured. By arranging instruction in such a manner it avoids the failure often associated

with the fading procedure.

If the student does not have the attention span to complete an entire sequence or becomes confused by many steps, an alternative approach is recommended. Instead of teaching each step as part of a sequence, each is taught in isolation: that is, the total handwashing program might at some point only involve picking up a bar of soap in the classroom. When the student has acquired all the steps in isolation, the complete sequence is introduced. The teacher must then decide what tactic (fading, backchaining, etc.) to use to teach the sequence.

Reinforcement Procedures: Many books and articles have been written detailing the advantages and disadvantages of using reinforcement procedures in the development of ADL skills (Berkowitz, et al. 1971, Martin, et al. 1971, Foxx & Azrin 1973). The question of whether or not to use reinforcement is academic, since every teacher, consciously or unconsciously, uses rewards in some manner (i.e., praise, attention, etc.). The issue is how and when the teacher uses reinforcement procedures and how systematically they are applied.

A basic component of ADL training using behavioral techniques is attention to and consistent application of reinforcement procedures. Reinforcement, like cues and assistance, is only one of the variables in the learning process. Like the other variables, it should be manipulated to help the student move toward independence. It is a component that should change as the student progresses. Generally, the progression is from extremely individualized rewards to those which commonly are found and accepted in our society (intrinsic, social, monetary).

Simply stated, when a student does something correctly, the teacher attempts to reward the student, e.g., verbal praise for putting on shoes, eating correctly with a fork. The rationale for this action is that when rewards are applied systematically for a specific behavior, the student will repeat the behavior to receive the reward again. Sometimes teachers do not consistently deliver rewards: occasionally, a student may resist a teacher's attempt to reward. The teacher may not consider either of these important, but they often can have serious learning consequences. Research on learning theory has found that both skill acquisition and retention are strongly affected by the manner in which reinforcement is delivered.

Two essential aspects of implementing a successful reinforcement procedure are the determination of appropriate rewards and the delivery of those rewards. Preferred rewards vary according to the student, and sometimes to the situation. Some students like to be praised by their teachers, others don't care. some prefer to play with their peers, others prefer to be alone. The only way to find out if a particular item or activity is reinforcing is to see if the student's behavior occurs more frequently when that reward is given. There are various procedures that will help a teacher identify potential reinforcers.

Detailed below is a recommended hierarchy of procedures which can be used to determine potentially reinforcing situations for a specific student.

1. if possible, ask the student.
2. question others who have been associated with the student and have had ample opportunity to observe likes and dislikes, e.g., parents, teachers, ward personnel.
3. observe the student in a natural environment, (home, classroom, ward) and determine through observation any likes and dislikes.

4. observe the student in a controlled environment where a number of potential reinforcers are available. Put four or five potential rewards (piece of candy, little soda, chips, etc.) on a table and ask the learner to take one. Repeat this procedure and remove the item if it has been chosen in two successive trials.

Following the question and/or observation period, it should be possible to priority rank a student's potential rewards by their specific characteristics:

* strength -- rank from apparent strongest to apparent weakest. It also is necessary to consider the saturation curve of the reward, that is, how long does it maintain its initial strength. For example, a walk may be a strong reward, but after one walk, the student may become tired, thus, the walk loses its reinforcing capabilities.

* disruption -- how difficult is it to dispense the reward, i.e., how upsetting is it to the training situation? A piece of hard candy may be easy to dispense, but if a student requires three or four minutes to eat it (and, thus, does not concentrate on the task), it can be extremely disrupting. It also is essential to consider the disruptive characteristics of a reward if it is to be used in group instruction.

* measurability -- can it be measured in quantifiable amounts for duplication by others? Items such as candy and cereal are relatively easy to measure (one piece of candy, two teaspoons of cereal), while social rewards are difficult to measure due to individual tutor differences.

* social acceptability -- certain reinforcing activities may upset those who have to work with the student. Rewards, such as, twirling or ripping pages out of a book, may be labeled "bizarre" and "socially unacceptable" by staff or parents. It is necessary that the tutor be as willing to give the reward as it is for the student to want the reward.

Then the teacher should answer the following questions:

* item -- what is the reward: food, liquid, token, social, intrinsic, etc.?

* schedule -- does the student get the reward after each correct response, for every two or three correct responses, at the end of the session, etc.?

* quantity -- does the student require a whole glass of juice after each correct response or half a glass?

Finally, on the basis of the answers, the teacher can select the appropriate rewards for each student.

To be effective, rewards should be given immediately following the behavior; otherwise the reinforcement may be associated with a random behavior which occurred between the time the desired behavior was performed and the reward presented. Therefore, when teaching a student to put on a shoe, as soon as the back of the shoe is slipped over the heel, the reward should be given. If the reward is playing with a toy or spending time in a particular setting, immediate presentation of the reward is more complicated. Ideally, the student should be allowed to play with the toy or stay in the setting and then be brought back to the activity. Besides being time consuming, such a procedure, however, can result in a tug-of-war. Therefore, it is beneficial to find reinforcers which can be delivered and terminated easily.

During the skill acquisition phase, it is important to deliver rewards each time the student performs the task in order to maintain the student's performance. The teacher can shape the student's performance by rewarding those behaviors which approximate the desired skill. Eventually, only when the student has performed the entire task correctly is a reward delivered. Once the student has acquired the behavior, a reward may then be delivered sporadically to maintain it.

Rewards should be delivered according to a reinforcement schedule; that is, a plan which describes when they are to be disseminated. Schedules generally are specified by either the number of responses emitted or the lapse of time. If a student is rewarded after completing a specific number of tasks or trials, this is a fixed ratio schedule, e.g., after every correct response, the student receives reinforcement (FR'), or after four correct responses, one reinforcement is presented (FR4), etc. Generally, fixed ratio schedules are used during initial training to maintain the rate of responding. Variable ratio schedules are those in which the number of responses necessary for a reinforcement changes; that is, sometimes a teacher will require three

responses, sometimes five and sometimes seven (all, however, revolve about a specific mean).Variable ratio schedules are used to increase the rate of responding.

The scheduling of reinforcement delivery also can be based on time intervals. In a fixed interval schedule, reinforcement is delivered after a specific amount of time elapses (one reinforcement per minute, etc.). A variable interval reinforcement schedule fluctuates the amount of time between reinforcements (one minute for the first reinforcement, three minutes for the second, two for the third, etc., once again varying about a mean). Interval schedules generally are used to maintain performance over extended time periods.

Data Collection and Analysis: Once the task has been broken down into its sequential steps and the instructional tactic identified, the teacher must determine what scoring system to use to monitor the student's acquisition of the skill. One common system involves scoring the student's performance of each step through a point system correlated to the amount of teacher assistance required by the student to accomplish the step. There are various point systems; one example is:

POINTS	ASSISTANCE
5	initial command
4	verbal cue
3	step command
2	step command and partial physical assistance
1	step command and full physical assistance
0	refuses all attempts to assist

To start the sequence, the teacher tells the student to "Go wash your hands". If the student goes to the sink without assistance, he/she gets 5 points (see Figure 2). If the student does not respond, the teacher cues by saying, "Where do you go to wash your hands?" and the learner still does not respond, the teacher says "Go to the sink" before the learner performs, 3 points are recorded. If the student continues to be unresponsive, the teacher repeats the step command and physically guides the student to the door of the bathroom. If the student then proceeds to the sink independently, 2 points are recorded.

If it is necessary for the teacher to say the command and walk the student to the sink, 1 point is recorded. Each time the student moves from one step to the next, points are recorded. If the student walks to the sink, rolls up sleeves and turns on the water, 5 points would be recorded for each step.

Points also may be assigned to various levels of performance as quality control measures, such as "how well the hands are washed" and "how well the hands are dried". Quality control scoring generally is more subjective:

Points	Quality of Performance
3	good
2	fair
1	poor

Using this scoring procedure, each skill has a point score that represents independent and quality completion of the task. For example, there are 16 steps in the handwashing sequence, for each step independently performed the student receives 5 points (total points would be 5 x 16 = 80 points). However, with handwashing there are two quality control measures each having a maximum score of 3 (2 x 3 = 6). Thus, the score 86 represents independent and quality completion of the task. Each step is only scored once in a session. Points should be recorded on a simple data sheet that provides a space for the score of each step during each session (Figure 2).

Scores can be graphed on a simple record point chart which allows the teacher (and others) to monitor the student's progress. Before recording any scores, the teacher can draw a horizontal line at the point value that represents independent performance (i.e., 86 points). Thereafter, the teacher merely records the score for each successive training session.

The teacher should monitor progress by periodically checking each point chart. The teacher must determine what is "acceptable progress" prior to conducting the sequence, i.e., the student will improve by at least five points every

STUDENT: DEBRA

PROGRAM: HANDWASHING STAFF: VARIED

DATE →	12 Dec.	13	14	16	17	18										
1. Goes to sink	5	5	5	5	5											
2. Rolls up sleeves	4	4	4	4	5											
3. Turns on water	3	3	3	4	5											
4. Dampens hands	3	3	4	3	4											
5. Turns off water	2	2	3	4	3											
6. Picks up soap	2	2	2	2	2											
7. Turns soap	3	4	4	4	4											
8. Replaces soap	2	3	3	4	4											
9. Lathers hands front and back	4	3	4	4	4											
10. Turns on water	2	2	3	3	4											
11. Rinses hands	2	2	2	2	3											
12. Turns off water	2	2	3	3	4											
13. Picks up towel	1	1	2	3	3											
14. Dries hands	2	2	2	3	3											
15. Replaces towel	2	2	2	2	3											
16. Rolls shirt sleeves down	2	2	1	2	3											
A. Washing Score	1	2	2	3	3											
B. Drying Score	1	1	1	2	2											
TOTAL	43	45	50	57	63											

SCORING KEY:
5. initial command
4. verbal cue
3. step command
2. step command and part physical assistance
1. step command and full physical assistance
0. refused to do

Scoring for A and B: 3 - good
2 - fair
1 - poor

TOTAL POSSIBLE POINTS = 86

Figure 2. ADL Scoring Sheet.

three sessions. As long as the student continues to make "acceptable progress", there is no need to modify instruction. However, if the student fails to progress, the teacher must evaluate the data to determine instructional modification.

By checking the data sheet, the teacher should be able to identify performance patterns. There generally are two patterns of performance, overall lack of progress and specific steps that appear to be presenting consistent difficulty. In situations where there is a general lack of progress, the teacher should consider major changes in instruction; these include using a new instructional procedure, changing reward, changing tutor (if possible), etc. When the difficulty appears to be with one or two specific steps (common when instruction first begins) the teacher should consider alternative ways of teaching that specific step. One alternative is to break the step into sub-steps (i.e., "replaces soap" - moves hand to soap dish, puts soap in dish, releases soap) and practice each sub-step separately. This often allows the teacher to pinpoint exactly where the student is having difficulty. Once this is accomplished, the teacher can have the student practice the task along with various other classroom activities during the day. If the difficulty involves a major skill deficit, the teacher may postpone the instruction until a physical therapist can make suggestions about remedial activities.

Behavior Management: It is not uncommon for students who are in the process of acquiring ADL skills to display certain disruptive behaviors, regardless of how well the instruction is organized. Many times these behaviors reflect an established pattern for dealing with people and/or learning situations. The teacher must plan ahead to cope with these behaviors, since, if they remain unchecked or are inappropriately responded to, they can prevent skill acquisition. There are several tactics that traditionally have been used to cope with behavior problems. The appropriate tactic depends on the specific situation and specific behavior.

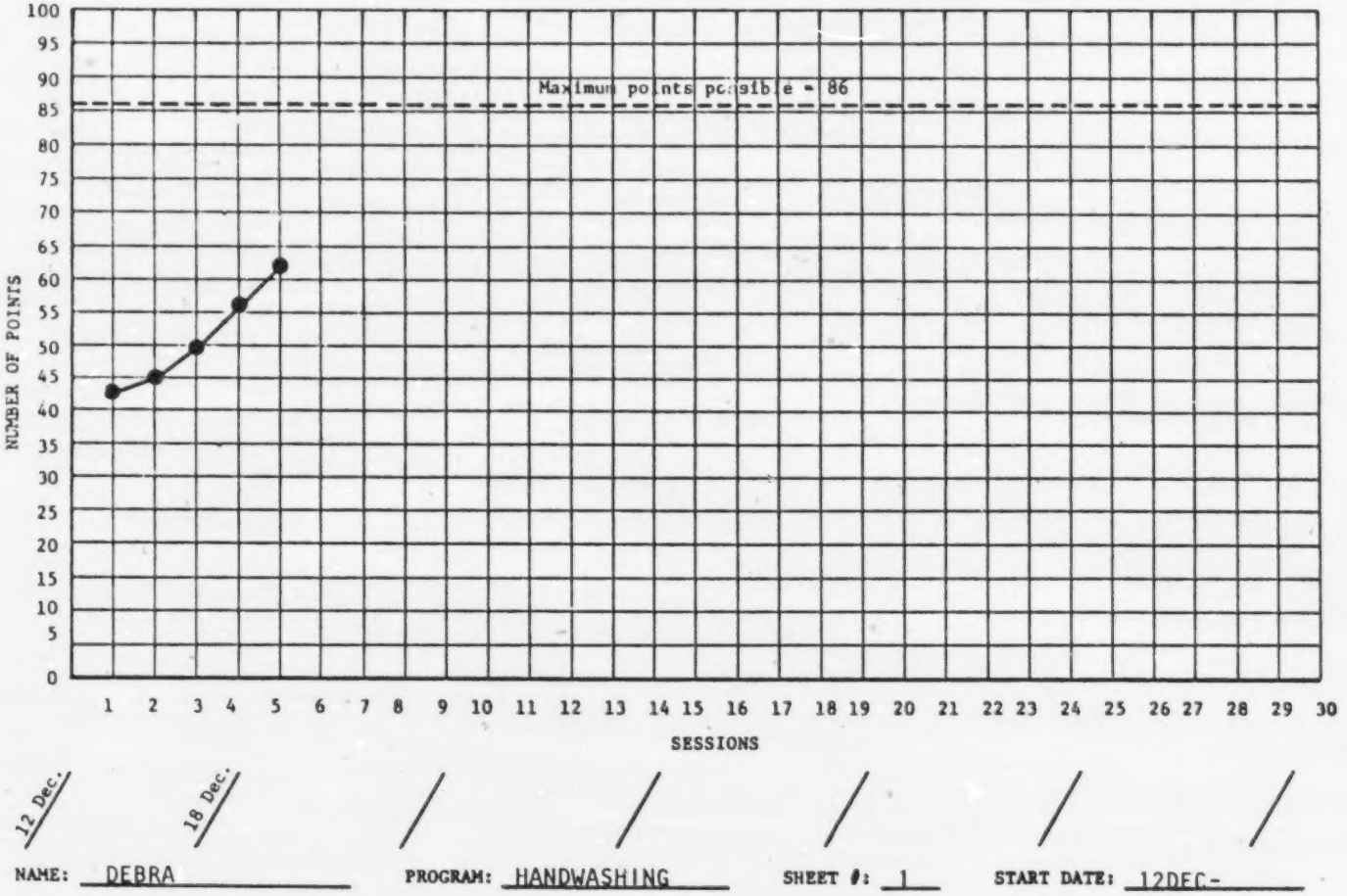


Figure 3. ADL Plotting Sheet.

One tactic often used to cope with behavior problems is ignoring the behavior. No reinforcement is delivered for the behavior; this leads to what is called extinction. This procedure can be used to eliminate disruptive behaviors in the classroom, or to eliminate other behaviors which compete with the desired behavior. Theoretically, if the student is not reinforced for the disruptive behavior, the student will stop exhibiting that behavior. To be effective, the ignoring of a behavior must be consistent. If ignoring the behavior is inconsistent, the disruptive behavior may be strengthened. When ignoring is used, it is generally accompanied by an initial increase in the behavior. This "burst" occurs because the student is trying to get reinforcement in a manner that has proven successful in the past. It should be expected and ignored; however, the increased frequency can be minimized if the student is provided with the opportunity to perform appropriate behaviors which are rewarded. The time required for the frequency of disruptive behavior to decrease is dependent on the student's reinforcement history with regard to that behavior.

Time out is an alternative to ignoring. In time out, the student is removed from a rewarding situation (from the playground, from the table) for a short time. The rationale is based on the belief that the student will begin to learn that disruptive behavior means removal from "fun" activities. As with other tactics, time out must be used consistently to be effective. Students should stay in "time out" for brief periods (up to five minutes) and be reintegrated into the activity as soon as the time out period is over. Time out is most effective when used for disruptive behaviors which occur when the student is engaged in an enjoyable activity.

Punishment may be employed as an attempt to decrease a student's inappropriate behaviors. Punishment obtains its reducing strength through the direct application of unpleasant events (slapping, shouting, etc.). When using punishment to eliminate a behavior, such factors as frequency and schedule of positive

reinforcement, negatively reinforced performances, emotional status generated, and behavior characteristics must be considered. The variables involved in the application of punishment, i.e., manner of instruction, immediacy, intensity, and schedule also must be considered.

Numerous criticisms exist regarding the effectiveness of punishment. Punishment often results in only temporary change and also can cause emotional side effects which may disrupt the student's classroom performance. Using punishment as a strategy requires the teacher to develop a pattern of negative responding, which, over time, will affect all interactions with the student.

Overcorrection is a procedure which combines verbal reprimands, verbal instructions, and manual guidance (if necessary) and dictates that an offender "overcorrect" his misbehavior. There are two types of overcorrection training; restitutional overcorrection, in which the individual restores a disturbed setting or situation to a state vastly improved from that existing prior to the disruption, and positive practice overcorrection, requiring that the individual practice appropriate modes of responding several times following inappropriate behavior. The overcorrection principle states that when an error or disruptive action occurs,the individual should be required to practice the correct manner of behaving.

Foxx and Martin (1975) found overcorrection procedures to be effective in eliminating scavenging behavior such as pica (ingesting non-nutritive substances) and coprophagy (ingesting fecal matter). The restitutional procedures for coprophagy involved oral hygiene training and personal hygiene training, while the positive practice procedure required the adult to mop the area or flush the toilets. Disruptive or inappropriate behavior generally is related to attention seeking, skill deficiency, or self stimulation. Any reactionary behavior by the teacher tends to feed the attention seeking, condemn the

student for not exhibiting skills being taught, or demands that the learner not be bored by an unstimulating environment. Reactionary behavior does not change any of these situations; it only causes a constantly growing concentration of staff energy on counterproductive activities.

To break the "no win" spiral, it is necessary to reform the teacher/student relationship by concentrating on positive interaction. Teacher/student interactions must become pro-active, that is, they must prevent disruptive behaviors rather than react to them. This approach requires the acknowledgement that the responsibility for dealing with disruptive behaviors falls on the teacher not the student.

The basic tactics in pro-active behavior management involve:

* interruption of established disruptive behavior chains.
* environment re-arrangement to reduce or eliminate the probability of the behavior occurring.
* if the behavior does occur, if possible, it is ignored and the learner immediately is redirected to a positive behavior and reinforced.
* implementing training sequences designed to develop competing behaviors.
* delivering continuous positive reinforcement for all appropriate behavior.

To implement these tactics, the teacher must concentrate on replacing reactive thinking with pro-active thinking. This requires attitudinal change and new skills. Although initially this requires a considerable time committment for changing attitudes and planning activities, in the long run, there can be a significant decrease in time devoted to reacting to disruptive behavior. More important, it can change the atmosphere of the learning environment from confrontation to constructive cooperation.

Support Activities: The acquisition of ADL skills often requires a greater degree of person to person cooperation than does most skill development activities. Frequently, it is impossible to clearly separate ADL skill development from other daily activities. The various persons involved in the training of the student (professionals, para-professionals, parents) must understand this critical inter-relationship in training if it is to be successful. ADL skills are acquired quickest when training is consistent across trainers and environments. All those involved in the training must agree to and understand the training procedures.

Activities which usually are components of the general classroom curriculum can assist greatly in the development of ADL prerequisite skills. Once ADL objectives have been established, and prerequisite skills pinpointed, classroom activities should be initiated which contribute to their development. For example, the fine motor skills required for buttoning, zipping, etc., can be worked on in activities such as finger painting, clay modeling, puzzle construction, etc. Other skill areas essential to ADL development that can be addressed in the classroom include:

* sensory awareness
* perceptual accuracy
* spatial relations
* tactile discrimination
* receptive language
* expressive language

Support activities can also be of a more specific nature. For example, a student working on dressing skills might participate in activities involving puppets, dolls, etc.

The amount of time devoted to support activities may be affected by the student's age because federal/state regulations only ensure educational rights of an individual up to a certain age. The student who is eighteen therefore,

may require an intensive training program using an extremely direct approach, i.e., teaching handwashing only with a task analysis approach five times per day, whereas, the five year old with the same objective may be taught through a combination of task analysis (once per day) and support activities (water play, playing with cloth, etc.).

Summary

Handicapped students who need to acquire ADL skills offer our public education system a challenge. In order for these students to have appropriate and sufficient services, administrators and teachers must be prepared to move beyond the artificial limitations imposed by traditional educational models. Educational activities should reflect an understanding of the critical role ADL skills play in a handicapped person's development. Despite the difficult challenges they present, ADL skills are a prerequisite for almost every other life option available to the handicapped student.

Auxter, D. Motor skill development in the profoundly retarded. Training School Bulletin, 1971, 68, 5-9.

Ball, T. (Ed.). A Guide for the Instruction and Training of Profoundly Retarded and Severely Multi-Handicapped Children. Santa Crux, CA: Santa Cruz County Board of Education, 1971.

Ball, T., & Porter, W. An exploration of the uses of the orienting response. Paper presented at the 91st annual meeting of the American Association of Mental Deficiency, Denver, CO, 1967.

Barnard, J.W., & Orlando, R. Behavior Modification: A Bibliography. Nashville, TN: George Peabody College, 1967.

Baumeister, A., & Klosowski, R. An attempt to group toilet train severely retarded patients. Mental Retardation, 1965, 3, 24-26.

Bensberg. G.J., Colwell, C.N., & Cassel, R.H. Teaching the profoundly retarded self help activities by behavior shaping techniques. American Journal of Mental Deficiency, 1965, 69, 674-679.

Berkowitz, S., Sherry, P., & Davis, B. Teaching self feeding skills to profound retardates using reinforcement and fading procedures. Behavior Therapy, 1971, 21, 62-67.

Bialac, V. The Severely and Profoundly Retarded. Olympia, WA: Washington State Library, 1970.

Blackwood, R.O. Operant conditioning as a method of training the mentally retarded. Unpublished Ph.D. dissertation, Ohio State University, 1962.

Bricker, W., & Bricker, D. Development of receptive vocabulary in severely retarded children. American Journal of Mental Deficiency, 1970, 74, 599-607.

Cain, L.E., Levine, S., & Elzey, F. Manual for the Cain-Levine Social Competency Scale. Palo Alto: Consulting Psychologists Press, 1963.

Cortazzo, A. Activity Centers for Retarded Adults. Washington, D.C.: President's Committee on Mental Retardation, DHEW Publication No. (05) 73-43, 1972.

Foxx, R.M., & Azrin, N. The elimination of autistic self stimulation behavior by overcorrections. Journal of Applied Behavior Analysis, 1973, 6, 1-14.

Foxx, R.M., & Azrin, N.H. Toilet Training the Retarded. Champaign, IL: Research Press, 1973.

Foxx, R.M., & Martin, E.D. Treatment of scavenging behavior (coprophagy and pica) by overcorrection. Behavior Research and Therapy, 1975, 13, 153-162.

Gardner, W.I. Behavior Modification in Mental Retardation. Chicago, IL: Aldine-Atherton, 1971.

Gardner, W.I., & Watson, L. Behavior modification in mental retardation: An annotated bibliography. Mental Retardation Abstracts, 1969, 6, 181-193.

Giles, D., & Wolf, M. Toilet training institutionalized severe retardates: An application of operant behavior modification techniques. American Journal of Mental Deficiency, 1966, 70, 766-780.

Gilhool, T. Education: An inalienable right. Exceptional Children, 1973, 39, 597-609.

Girardeau, F., Albright, J.,Saunders, L.J., & Calia, P. Operant Conditioning and Mental Retardation. Kansas City: University of Kansas Medical Center, 1970.

Girardeau, F.L., & Spradlin, J. Token rewards in a cottage program. Mental Retardation, 1964, 2, 345-351.

Gold, M. Research on the vocational habilitation of the retarded: The present, the future. In N.R. Ellis (Ed.), International Review of Research in Mental Retardation. New York: Academic Press, 1973.

Groves, I.D., & Carroccio, D.F. A self feeding program for the severely and profoundly handicapped. Mental Retardation, 1971, 9, 10-12.

Hollis, J., & Gorton, C. Training severely and profoundly developmentally retarded children. Mental Retardation, 1967, 5, 20-24.

Hundziak, M., Maurer, R.A., & Watson, L.S. Operant conditioning in toilet training of severely retarded boys. American Journal of Mental Deficiency, 1965, 70, 120-125.

Jeffrey, D. Increasing and maintenance of verbal behavior. Mental Retardation, 1972, 10, 35-41.

Johnson, M., Kelly, C., Harris, R., & Wolf, M. Application of reinforcement principles to development of motor skills of a young child. Child Development, 1966, 37, 379-387.

Karen, R.L., & Maxwell, S.J. Strengthening self-help behavior in the retardate. American Journal of Mental Deficiency, 1967, 546-550.

Kimbell, D.L., Kidwell, F., & Hallum, G. Institutional environment developed for training severely and profoundly retarded. Mental Retardation, 1967, 5, 34,37.

Lake, T.P. Programs providing alternatives: Educating the severely and multiply handicapped. Education and Training of the Mentally Retarded, 1974, 9, 29-47.

Lippman, L., & Goldberg, I. Right to Education. New York: Teachers College Press, 1973.

Mager, R., & Pipe, P. Analyzing Performance Problems. Belmont, CA: Fearon Publishers, 1970.

Martin, G.L., Kehoe, B., Bird, E., Jensen, V., & Darbyshire, M. Operant conditioning in dressing behavior of severely retarded girls. Mental Retardation, 1971, 9 (3), 27-31.

Minge, M., & Ball, T. Teaching self-help skills to profoundly retarded patients. American Journal of Mental Deficiency, 1967, 71, 864-868.

Peine, H., Gregerson, G., & Sloane, H. A program to increase vocabulary and spontaneous behavior. Mental Retardation, 1972, 10, 24-27.

Rice, H., McDaniel, M., Stallings, V.D., & Gatz, M.J. Operant behavior in vegetative patients. Psychological Record, 1967, 17, 449-460.

Risley, T., & Wolf, M. Establishing functional speech in echolalic children. In H. Sloan & B. MacAulay (Eds.), Operant Procedures in Remedial Speech and Language Training. Boston, MA: Houghton Mifflin, 1968.

Roos, P. Current issues in the education of mentally retarded persons. In W.J. Cegelka (Ed.), Proceedings: Conference on the Education of Mentally Retarded Persons. Arlington, TX: National Association for Retarded Citizens, 1971.

Roos, P. Initiating socialization programs for socially inept adolescents. Mental Retardation, 1968, 6, 13-17.

Semmel, D., Semmel, M. & Thiagarajan, S. Instructional Development for Training Teachers of Exceptional Children. Reston, VA: Council for Exceptional Children, 1974.

Sloan, H. Some procedures for developing verbal behavior in a remedial setting. Paper presented at the Midwest Psychology Association. Chicago, IL.: 1966.

Smith, P.B. Acquisition of motor performance of the young TMR. Mental Retardation, 1972, 10, 46-49.

Spradlin, J. The Premack hypothesis and self feeding by profoundly retarded children: A Case Report. Parsons, KS: Parsons State Hospital and Training Center, Paper # 79, 1964.

Stremel, K. Language training: A program for retarded children. Mental Retardation, 1972, 10, 47-49.

Treffry, D., Martin, G.L., Samels, J., & Watson, C. Operant conditioning of grooming behavior of severely retarded girls. Mental Retardation, 1970, 8, 29-33.

Watson, L. S. Application of operant conditioning techniques to institutionalized severely and profoundly retarded children. Mental Retardation Abstracts, 1967, 4, 1-8.

Watson, L. Child Behavior Modification: A Manual for Teachers, Nurses and Parents. New York: Pergamon Press, 1973.

Whitney, L.R., & Barnard, K. Implication of operant learning theory for nursing care of the retarded child. Mental Retardation, 1966, 4, 26-29.

Wiesen, A.E., & Watson, L. Elimination of attention seeking behavior in a retarded child. American Journal of Mental Deficiency, 1967, 72, 50-52.